

CLAIMS

1. An ink composition for continuous deflected jet printing that is liquid at room temperature and that contains:

- a binder;
- one or more dyes and/or pigments; and
- a solvent;

wherein the said solvent contains more than 70% by weight - relative to the total weight of the ink - of propylene carbonate, and less than 10% by weight, preferably less than 5%, more preferably less than 1% and best 0% by weight of water.

2. An ink composition according to claim 1, containing more than 80% by weight of propylene carbonate, preferably more than 85% by weight, and more preferably more than 90% by weight of propylene carbonate.

3. An ink composition according to any one of claims 1 and 2, containing at most 97% by weight, preferably at most 95% by weight of propylene carbonate.

4. A composition according to any one of the preceding claims, wherein the flash point is higher than 60°C.

5. A composition according to any one of claims 1 to 4, containing up to 20% by weight, preferably 5 to 15% by weight of one or more other organic solvents different from propylene carbonate.

6. An ink composition according to claim 5, wherein the said organic solvent(s) is or are chosen from among alcohols; ketones; alkylene glycol ethers and the esters thereof, such as the acetates; dimethylformamide; N-pyrrolidone; and the carbonates other than propylene carbonate, such as ethylene carbonate and the dimethyl and diethyl carbonates; and mixtures thereof.

7. A composition according to claim 6, wherein the said other organic solvent(s) is or are chosen from among the straight-chain or branched aliphatic alcohols containing 1 to 5 carbon atoms; the ketones containing 3 to 10 carbon atoms; the mono-(C₁ to C₆)-alkyl or di-(C₁ to C₆)-alkyl ethers of alkylene glycols containing 1 to 10 carbon atoms in the alkylene chain, such as ethylene and propylene glycol; and the esters thereof with saturated aliphatic carboxylic acids containing 1 to 6 carbon atoms.

8. A composition according to claim 6 or 7, wherein the content of the said organic solvent(s) is chosen in such a way that the flash point of the composition is higher than 60°C.

9. An ink composition according to any one of the preceding claims, wherein the said binder comprises one or more resins or binders.

10. A composition according to claim 9, wherein the said resin(s) and/or polymer(s) is or are chosen

from among the (meth)acrylic, vinyl, ketone, phenol, cellulose, styrene and epoxy resins, the polyurethanes, the styrene acrylates and the combinations of two or more thereof.

11. An ink composition according to any one of the preceding claims, containing from 0.1 to 30% by weight, preferably from 1 to 25% by weight, more preferably from 3 to 20% by weight of binder.

12. An ink composition according to any one of the preceding claims, additionally containing one or more plasticizers in a proportion of from 0.1 to 20% by weight.

13. An ink composition according to any one of the preceding claims, wherein the said dye(s) and/or pigment(s) is or are chosen from among the dyes and pigments known under the name of "C. I. Solvent Dyes" and "C. I. Pigments", such as C. I. Solvent Black 29, C. I. Solvent Black 7, C. I. Solvent Black 28, C. I. Solvent Black 35, C. I. Solvent Blue 70, C. I. Solvent Red 124 and the dispersions of Pigment Blue 60 or of Pigment Blue 15.

14. A composition according to any one of the preceding claims, containing from 0.05 to 25% by weight of dye(s) and/or pigment(s), preferably from 1 to 20% and more preferably from 3 to 10% by weight.

15. A composition according to any one of the preceding claims, additionally containing at least one

conductivity salt in a proportion of from 0.1 to 20% by weight, preferably from 0.1 to 10% by weight and more preferably from 0.1 to 5% by weight.

16. An ink composition according to claim 15, wherein the said conductivity salt is chosen from among the salts of alkali metals, alkaline earths and simple or quaternary ammonium, in the form of halides, perchlorates, nitrates, thiocyanates, formates, acetates, sulfates, propionates, hexafluorophosphates, hexafluoroantimonates and propionates.

17. An ink composition according to any one of the preceding claims, having a conductivity of greater than 300 $\mu\text{S}/\text{cm}$ at 20°C, preferably from 500 to 2000 $\mu\text{S}/\text{cm}$.

18. An ink composition according to any one of the preceding claims, additionally containing one or more additives from among anti-foaming agents, chemical stabilizers, UV stabilizers, surfactants, agents for inhibiting corrosion by salts; bactericides, fungicides and biocides, and pH-regulating buffers.

19. A method for marking of articles by spraying an ink onto the substrate by means of the continuous deflected jet technique, characterized in that the sprayed ink is an ink composition according to any one of claims 1 to 18.

20. A substrate, characterized in that it is provided with a marking obtained by drying of the ink composition according to any one of claims 1 to 18.

21. A substrate according to claim 20, characterized in that the substrate is of metal, such as aluminum, of steel, of glass, of ceramic, of a cellulose-containing material such as paper, which may be coated or glazed, cardboard or wood, of synthetic polymer ("plastic") such as PVC or PET, of polyolefin such as polyethylene (PE) or polypropylene (PP), of "Plexiglass" or of any other nonporous or porous substance or of a composite of a plurality of the foregoing materials.

22. A substrate according to claim 21, which is a postal article, a letter, a package or a postal stamp.